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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,551	03/09/2001	Scott E. Harrow	10205.030	7317
7590	12/17/2003		EXAMINER	
Paul F. Wille 6407 East Clinton Street Scottsdale, AZ 85254			SINGH, RAMNANDAN P	
			ART UNIT	PAPER NUMBER
			2644	15

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/803,551	HARROW ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Dr. Ramnandan Singh	2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 25 August 2003.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-6 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. Claims 1-6, drawn to a method for comparing two electrical signals, classified in class 379, subclass 388.06.
- II. Claims 7-8, drawn to an accumulator having an up-down counter and logic for preventing roll-over, classified in class 326, subclass 40.

2. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, there is no generic claim.

3. Applicant's response filed on March 10, 2003 confirmed the election of Group I containing Claims 1 thru 6. As a result, Claims 7 and 8 are withdrawn by the Applicant. Hence, this restriction requirement is made FINAL.

### ***Response to Arguments***

4. Applicant's arguments filed August 25, 2003 have been fully considered but they are not persuasive.

(i) Applicant's argument---“The system disclosed in Fig. 20 of the Sullivan patent is not a clocked system” on page 4.

Examiner's response---In response to the applicant's argument, the Examiner asserts that the Applicant's argument is not directed to the Claim.

(ii) Applicant's argument—“The cause of rise and fall is not disclosed. Nor is it disclosed why the rising or falling is periodic” on page 4.

Examiner's response---Applicant's argument is irrelevant to the Claim.

(iii) Applicant's argument—“It is axiomatic that the prior art must be enabling to be anticipatory” on page 4.

Examiner's response--- Reference is enabling. The mere fact that Attorney points out that some certain aspect of the reference is not explicitly discussed does not prove that the reference is non-enabling.

(iv) Applicant's argument—“The signals S1, S2, and S3 are generated identically; see Fig. 8 of the Sullivan patent” on page 5.

Examiner's response---The Examiner disagreed. Applicant is respectfully directed to visit Fig. 8 of the Sullivan patent where three different detectors are used to produce the signal S1, S2, and S3 with different values. Therefore, the signals S1, S2, and S3 are clearly NOT “generated identically.”

(v) Applicant's argument—“There is no conversion of a plurality of binary representations into a count” on page 5.

Examiner's response----The Examiner disagreed. Applicant is respectfully directed to Fig. 20 of the Sullivan patent which shows a set of D- flip-flops 290, 292, 294, 296, 298, 300. These flip-flops receive inputs from the comparators 276, 278 and 280 and outputs binary representations. Further, Sullivan discloses logic gates and counter combinations [Fig. 20; references 302, 304, 306, 308, 310] that use the outputs of the D flip-flops to convert them into a first count [Fig. 20, reference 312].

(vi) Applicant's argument—“Examiner uses the same element (counter 312) to anticipate two steps in the recited method” on page 5.

Examiner's response---- Count threshold = 0, triggers flip-flop 306. The Claims are method claims. If a single structure and its function in the reference meet the CLAIMED limitations, then so be it. Part of counter 312 generates a count, and part of it performs a threshold comparison.

(vii) Applicant's argument—“Examiner asserts that a counter inherently includes a comparator” on page 5.

Examiner's response---- Attorney has totally misinterpreted Examiner's statement, attempting to characterize it as a general statement that any counter inherently has a comparison step. What was stated is that counter 312 has a component, TCD, which inherently performs a comparison. Perhaps it would have been more accurate to simply say that TCD of counter 312 performs a comparison, rather than “inherently performs a comparison.”

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3 through 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 3 claims the method of Claim 1 wherein the comparing step includes "providing a binary indication of the results of the comparison". Claim 1 includes at least three comparisons in that Claim 1 recites "comparing the signals to each other and to at least one threshold" (i.e., at least two comparisons) and "comparing the first count to at least one count threshold" (i.e., at least one more comparison). It is unclear which of these comparisons is meant by the recitation "the comparison" in Claim 3. For the purpose of this Office action examiner assumes "the comparison" means "the comparison of the first count to the at least one count threshold".

8. Claims 4 through 6 are indefinite due to dependence on indefinite Claim 3.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1 through 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Sullivan (US Patent 5,307,198).

11. Claim 1 claims a method for comparing two electrical signals comprising comparing the signals to each other and to at least one threshold to produce a binary representation of the comparison. Sullivan discloses a signal processor circuit (Fig. 20, reference 152; column 20, lines 42-50) that includes a comparator (Fig. 20, reference 276) that compares two signals (Fig. 20, reference S1, S2) with each other and comparators (Fig. 20, reference 278, 280) that compare these signals with another signal (Fig. 20, reference S3) that corresponds to the threshold claimed to produce a set of Boolean outputs (Fig. 20, reference S2>S1, S1>S2, S3>S2, S2>S3, S1>S3, S3>S1) that are latched by a set of flip-flops (Fig. 20, reference 290, 292, 294, 296, 298, 300) the outputs of which correspond to the binary representation claimed. Claim 1 further claims converting a plurality of binary representations into a first count. Sullivan

discloses a flip-flop and logic gate and counter combination (Fig. 20, reference 302, 304, 306, 308, 310) that takes uses the outputs of the flip-flops to control a counter (Fig. 20, reference 312), the count of which corresponds to the first count claimed. Claim 1 further claims comparing the first count top at least one count threshold. Sullivan discloses generation of a new-phase signal (Fig. 20, reference 160; column 23, lines 24-31) only when the count of the counter is at zero (i.e., at least one count threshold), which inherently includes comparing the count to a threshold. Therefore, Sullivan anticipates all elements of Claim 1.

12. Claim 2 claims the method of Claim 1 wherein comparing the signals includes comparing the signals in an analog comparator. As stated above apropos of Claim 1, Sullivan anticipates all elements of that claim. In addition, Sullivan discloses comparing the signals in an analog comparator (column 21, lines 12-26). Claim 2 further claims sampling the output of the comparator to produce the binary representation of the comparison. Sullivan discloses flip-flops (Fig. 20, reference 290, 292, 294, 296, 298, 300) that latch (i.e., sample) the set of Boolean outputs of the comparators to produce a set of outputs that corresponds to the binary representation claimed. Therefore, Sullivan anticipates all elements of Claim 2.

12. Claim 3 claims the method of Claim 1 wherein comparing the first count to at least one count threshold includes providing a binary indication of the result of the comparison. As stated above apropos of Claim 1, Sullivan anticipates all elements of that claim. In addition, Sullivan discloses a new-phase signal (Fig. 20, reference 160; column 23, lines 24-31) that is generated only when the counter is at zero (i.e., at least one count threshold) and therefore indicates the result of the comparison. Therefore, Sullivan anticipates all elements of Claim 3.

### **Conclusion**

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers for the

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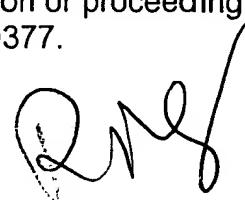
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- organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh  
Examiner  
Art Unit 2644



December 11, 2003



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